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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/616,480	07/14/2000	Thomas A. Dye	5143-01801	6329

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EXAMINER

WILLIAMS, HOWARD L

ART UNIT	PAPER NUMBER
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2819

DATE MAILED: 04/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/616,480

**Applicant(s)**

DYE ET AL.

**Examiner**

Howard L. Williams

**Art Unit**

2819

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-38,41,45 and 55-61 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-16 is/are allowed.
- 6) ☐ Claim(s) 17-28,30,32-37,41,45,55,56,58 and 59 is/are rejected.
- 7) ☒ Claim(s) 29,31,38,57,60 and 61 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2/22/01, 6/11/03 & 12/22/03.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

A shortened statutory period for reply to this action is set to expire THREE MONTHS from the mailing date of this action. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

The examiner acknowledges receipt of the Information Disclosure Statements filed 22 February 2001 and 11 June 2003. Copies of the initialed citation forms should accompany this letter.

The terminal disclaimer filed 22 Dec. 2003 is acknowledged and has been accepted.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

*A person shall be entitled to a patent unless –  
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.*

Claims 34, 36 and 37 are rejected under 35 U.S.C. 102(b) as anticipated by Yabe et al. article Compression/Decompression DRAM for Unified Memory Systems: a 16 Mb, 200MHz, 90% to 50% Graphics-Bandwidth Reduction Prototype. Yabe et al. disclose compression and decompression (fig. 2a) as part of a logic unit embedded with the DRAM units (Fig. 1). Also depicted from figure 1 is the CPU, and memory/graphics controller connected by the buses *Command Link* and *Data Link*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

*(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.*

Claims 17-28, 30, 32, 33, 35, 41, 45, 55, 56, 58 and 59 are rejected under 35 U.S.C. 103(a) as unpatentable over Yabe et al. article Compression/Decompression DRAM for Unified Memory Systems: a 16 Mb, 200MHz, 90% to 50% Graphics-Bandwidth Reduction Prototype in view of Masenas (US 5,771,011) and Seroussi (US 5,389,922). Yabe et al., as noted above, disclose compression-decompression mounted with the DRAM units. Yabe et al. show the microprocessor and memory controller (fig. 1) The compression is described as using a lossless algorithm (col. 1, page 342) but does not disclose using a history table and comparing symbols against the contents of the history table in a parallel fashion. Masenas discloses a LZ1 plural byte per cycle compression using a history buffer/table implemented with a content addressable memory. The CAM provides plural comparisons to determine potential matches along various possible match trajectories. The combination of Masenas and Yabe et al. would have been obvious to provide an improved usage of memory and reduced memory requirement achieved through the use of compression. Seroussi et al. discloses the inclusion of header information in the compressed file to store information on the type of compression used. Inclusion of header information to store this type of information in Yabe et al. and Masenas would have been obvious because it would allow different types of compression to be readily distinguished as well as conveying other useful information such as length of compressed segments that would assist the decompression process.

Claims 1-16 are allowable over the art of record.


Claims 29, 31, 38, 57, 60 and 61 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicant's response filed 22 December 2003 have been fully considered but are not persuasive. The examiner has withdrawn the rejection(s) under 35 USC 101 because as pointed out there is a difference, however minimal, in the language.

Regarding the contention that the Yabe et al. article is not prior art to the present application, it is correct that the present application claims priority to earlier applications filed before Yabe's publication. However, the claim to priority only applies to the subject matter shared in common. The contention of support is a general allegation at best and does not point out any particular instance of common disclosure. As for the present application the examiner did not find support for the memory module with the compression in the applications filed before Yabe's publication when the rejection was written. Absent a specific showing of page and line of the requisite common disclosure the examiner finds the general allegation presented unpersuasive. Regarding the argument that the claims of applicants' patent were allowed over Masenas so the present claims should be allowed also. It is interesting that the response notes arguably insubstantial differences in the arguing the rejection under 35 USC 101 but chooses to ignore the language in the patented claims covering, *inter alia*, middle matches. As for the patent claims and the present claims being indistinct, the present application certainly seems to be the same basic compression-decompression method being reserved.

Any inquiry concerning this communication should be directed to Howard L. Williams at telephone number 703-308-1679.

4/12/04

  
Howard L. Williams  
Primary Examiner  
Art Unit 2819